

Appln. No. 10/670,533
Docket No. 124457-2/GB3-0016-P

REMARKS

Status of Claims

Claims 1-35 are pending in the application and stand rejected. Applicant has cancelled Claims 20, 30 and 31, and has amended Claims 9 and 22, leaving Claims 1-19, 21-29 and 32-35 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

These amendments and accompanying remarks were not presented earlier because Applicant did not fully appreciate the nature of the Examiner's position until the Applicant was advised in more detail of the position by the final rejection. The claim amendments presented herein, which Applicant respectfully requests entry thereof, should require only a cursory review by the Examiner as they include only elements presented in earlier examined claims. Accordingly, such amendments should not require further consideration or search.

Rejections Under 35 U.S.C. §103(a)

Claims 1, 2, 4-6, 8-10, 12, 20, 22, 24, 28, 30, 32, 34 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen (U.S. Patent Application Publication No. 2002/0085681, hereinafter Jensen) in view of Hinton et al. (U.S. Patent No. 5,485,502, hereinafter Hinton).

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton as applied to Claim 12 above, and further in view of Deucher et al. (U.S. Patent No. 5,220,588, hereinafter Deucher).

Claims 14-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton and Deucher as applied to Claims 12 and 13 above, and further in view of Noegel et al. (U.S. Patent Application Publication No. 2002/0085682, hereinafter Noegel).

Claims 18, 19, and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton and Deucher as applied to Claims 12 and 13 above, and further in view of Noegel and Pearson et al. (U.S. Patent No. 6,301,324, hereinafter Pearson).

Claims 23, 25, 29, 31, and 33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton as applied to Claim 22 above, and further in view of

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Cenic et al. ("Dynamic CT Measurement of Cerebral Blood Flow: A Validation Study", hereinafter *Cenic*).

Claims 3, 7, 11, 26, and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton and *Cenic* as applied to Claims 1, 9, 22, and 23 above, and further in view of Kruger et al. (U.S. Patent No. 4,577,222 hereinafter *Kruger*).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as *the References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs*. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Regarding Claim 1

Claim 1 recites, inter alia,

"...driving the mobile support so that it carries out *the movement repetitively to form a periodically refreshed 3D model of the object*."

Dependent claims inherit all of the limitations of the parent claim.

Here, Applicant does not claim repetition of just any movement, but rather claims repetition of the earlier claimed movement that relates to the driving of the mobile support along *a given movement with respect to the means for supporting the object*.

Also, Applicant herein claims, inter alia, the forming of *a periodically refreshed 3D model of the object*.

In alleging obviousness of these limitations, the Examiner references Jensen at Figure 8, #305 and #350, and at Paragraph 53, last 6 lines. Paper No. 200508, page 2.

In respectful disagreement with the Examiner, Applicant submits that Jensen fails to teach or suggest each and every element of the claimed invention in such a manner as to perform as the claimed invention performs. More specifically, Applicant submits that Jensen fails to teach or suggest driving the mobile support so that it carries out *the movement repetitively to form a periodically refreshed 3D model of the object*.

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At Figure 8, #305 and #350, as referenced by the Examiner, Applicant finds Jensen to teach a logical decision as to whether the receptor has moved to a desired position (Figure 8, #305, illustrating a logical decision icon), and a branching loop to logical point "A" (Figure 8, #350, illustrating a logical decision path).

At Paragraph 53, last 6 lines, as referenced by the Examiner, Applicant finds Jensen to teach "the image processing computer 16 performs parallel operations *to repeat steps 305-340* to improve upon the 3-D patient data set...". Emphasis added.

Here, Applicant finds Jensen to teach the repetition of *steps 305-340*, and submits that such a teaching is merely the implementation of a logical do-loop that advances the motion of the receptor from its last known position to its next incremental position, such as by 5 degrees for example (see Paragraph [0054], last line), and is *not an implementation of a repetitive movement of the entire cycle to form a periodically refreshed 3D model of the object*, as evidenced by the absence of any control logic path that re-initializes the position of the image receptor at step 300 (see Figure 8, logical point "A"). In Figure 8 of Jensen, the logic path loops back to step 305 (advancement to next incremental position), not step 300 (re-initialization of receptor position).

In the instant claimed invention, the repetitive movement *to form a periodically refreshed 3D model of the object* is directed to a carrying out of *the entire movement repetitively*, which is substantially different from the *advancement from a last position to a next incremental position*.

Not only does Applicant find Jensen to be absent any teaching or suggestion of the entire movement being repetitively performed, but Applicant also finds Jensen to be absent any teaching or suggestion of the repetitive movement being used to form a periodically refreshed 3D model of the object. In fact, Applicant submits that Jensen is devoid of any discussion at all of periodically refreshing the 3D model of the object, and the Examiner has not stated with specificity where such a teaching may be found in Jensen.

Accordingly, Applicant submits that Jensen, contrary to the Examiner's allegations of obviousness, and as applied to Claim 1 for the purposes therefore, does not teach each and every element of the claimed invention in such a manner as to perform as the claimed invention performs.

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Regarding Claim 5 Specifically

Claim 5 recites, inter alia,

"...wherein a sequence of 2D images is continuously memorized or stored, on a sliding window, corresponding to a number of images necessary for reconstitution of a 3D model, and processing is applied for continuous reconstitution of a 3D model on this sliding window."

Here, Applicant does not claim the continuous memorizing or storing of just a single image, but rather claims the memorizing or storing of *a number of images* (contextually claimed in the plural). Also, Applicant does not claim the memorizing or storing of an image at just an instant of time, but rather claims the memorizing or storing *on a sliding window* that corresponds to the number of images necessary for reconstitution of a 3D model.

In alleging obviousness, the Examiner references Jensen at Claim 6, Paragraph 52, lines 11-13, and Figure 8, #345 or #350.

In respectful disagreement with the Examiner, Applicant submits that Jensen fails to teach or suggest each and every element of the claimed invention in such a manner as to perform as the claimed invention performs. More specifically, Applicant submits that Jensen fails to teach or suggest wherein a sequence of 2D images is continuously memorized or stored, on a sliding window, corresponding to a number of images necessary for reconstitution of a 3D model, and processing is applied for continuous reconstitution of a 3D model on this sliding window.

At claim 6, as referenced by the Examiner, Applicant finds Jensen to teach a processor that transforms multiple 2D fluoroscopic images into 3D volumetric data sets.

At Paragraph 52, line 11-13, as referenced by the Examiner, Applicant finds Jensen to teach "The image processing computer 16 captures *the new exposure* and, at step 320, stores *the new exposure* along with the position of the receptor 34, where the position information is provided from the tracking data processor 20. *The new exposure* obtained at step 315 is used at step 325 by the image processing computer 16 to update (not continuous reconstruction of) the 3-D patient data set." Emphasis added.

Here, Applicant finds Jensen to teach the capturing of *a new single exposure* and the storing of *that new single exposure along with the position of the receptor*. No where does Applicant find Jensen to teach or suggest a sequence of 2D images that are *continuously stored on a sliding window that corresponds to a plurality of images necessary for reconstruction of a*

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3D model, and the application of processing for continuous reconstitution of a 3D model on this sliding window.

Accordingly, Applicant submits that Jensen, contrary to the Examiner's allegations of obviousness, and as applied to Claim 5 for the purposes therefore, does not teach or suggest each and every element of the invention in such a manner as to perform as the claimed invention performs, and that the other cited References fail to cure the deficiencies of Jensen.

Dependent claims inherit all of the limitations of the parent claim.

Regarding Claim 9

Applicant has cancelled Claim 20 and has incorporated all of the limitations therefrom into Claim 9. Claim 20 was originally directed to an invention having limitations similar to those of Claim 5, discussed above. Accordingly, Claim 9 now recites limitations similar to those of Claims 1 and 5, which have been discussed above.

In view of the remarks set forth above regarding Claims 1 and 5, Applicant submits that the Jensen fails to teach or suggest each and every element of the invention in such a manner as to perform as the claimed invention performs, and that the other cited References fail to cure the deficiencies of Jensen.

Dependent claims inherit all of the limitations of the parent claim.

Regarding Claim 22

Applicant has cancelled Claim 30 and has incorporated all of the limitations therefrom into Claim 22. Claim 30 was originally directed to an invention having limitations similar to those of Claim 5, discussed above. Accordingly, Claim 22 now recites limitations similar to those of Claims 1 and 5, which have been discussed above.

In view of the remarks set forth above regarding Claims 1 and 5, Applicant submits that the Jensen fails to teach or suggest each and every element of the invention in such a manner as to perform as the claimed invention performs, and that the other cited References fail to cure the deficiencies of Jensen.

Dependent claims inherit all of the limitations of the parent claim.

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the

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patent Applicant has done, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

Applicant has amended the claims for presentation in better form for consideration on appeal, and to more clearly reflect Applicant's invention. The claim amendments should only require a cursory review by the Examiner as they only include language presented in earlier examined claims.

In view of the foregoing remarks and amendments, Applicant respectfully submits that the proposed amendments and arguments comply with 37 C.F.R. §1.116 and should therefore be entered, and with their entry that the Examiner's rejections under 35 U.S.C. §103(a) have been traversed and that the application is now in condition for allowance. Such action is therefore respectfully requested.

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The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 50-2513.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above identified Deposit Account.

Respectfully submitted,

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